



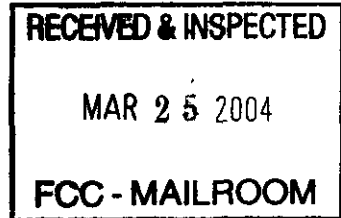
Minnesota Department of Transportation

Transportation Building
395 John Ireland Boulevard
St Paul, Minnesota 55155-1899

ORIGINAL EX PART OR LATE FILED

March 15, 2004

Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Room TW-204B
Washington, DC 20554



Re: WT Docket 02-55; 800 MHz Realignment

To: Chairman Michael K. Powell

Mn/DOT is responsible for public safety communications for the state of Minnesota. Its responsibility includes planning, design and maintenance for the State Patrol, Highway Maintenance and Natural Resources statewide radio systems. Mn/DOT at the direction of the state legislature and in partnership with local participants has recently implemented a wide area Public Safety digital trunked system covering nine counties of the Minneapolis – Saint Paul Metropolitan area. The network continues to grow with over 10,000 units now operational. It consists of over 35 sites and uses both public safety (806 MHz) and NPSPAC channels. Mn/DOT has also recently implemented a statewide Mobile Data System for the Minnesota State Patrol. The system uses 806 MHz channels. Under the current FCC bandplan both of these systems are vulnerable to interference from Nextel and Cellular A systems.

Additionally, the Minnesota State Legislature is currently discussing the issuance of an additional \$ 45 million to expand the 800MHz system into an additional 23 counties in greater Minnesota and to provide up to 50% grants to local units of government to facilitate their participation in this shared network.

Mn/DOT supports the Consensus Plan and asks the FCC to act now to resolve the uncertainty with the future of the 800MHz allocations.

Mn/DOT has experienced a Nextel interference problem and is suspecting several more. The Nextel problem was corrected by adding another site to the trunked system to achieve higher signal strength to overcome the interference. Other potential problems are currently under investigation. Attached are examples of operational problems attributable to the Nextel interference issue.

With the proliferation of new cellular sites, and the failure to address the inherent frequency allocation problem, Mn/DOT expects new problems to continue to appear indefinitely. Addressing the problems in a time consuming and reactive manner will compromise Public Safety in the Minneapolis – Saint Paul area.

Mn/DOT recommends that the FCC adopt the 800 MHz Consensus Plan because;

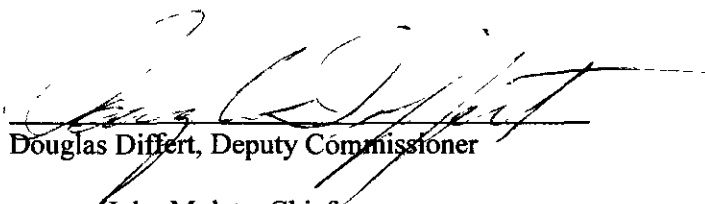
- Public safety units must be able to operate near Cellular towers without receiving harmful interference to their mission critical communications.

No. of Copies rec'd 019
List ABCDE

- The uncertainty of future system performance and reliability has caused many policy makers to question the appropriateness of additional investment in 800MHz trunking.
- This form of interference (intermod) is difficult to manage because the cellular systems frequently change frequencies and different companies are involved. This inability to assure public safety system users of interference free communications significantly reduces their confidence in our current system and is a barrier to progress in expanding the system.
- There is a growing density of cellular high power and low antenna sites clustered close to one another using an interference-limited design. This leads to repetition of the interference problem creating an ever increasing degradation of the Public Safety system's performance.
- Numerous examples of interference occurring nationwide, supported by technical analysis demonstrate that the bandplan is marginal in supporting the intended applications.
- It is expensive for Public Safety agencies to continually isolate and attempt to solve interference problems.
- Public Safety agencies will not implement systems using valuable 800MHz spectrum if they expect interference.
- The Safety of the Public must be paramount when considering adoption of the Plan.

In conclusion Mn/DOT supports the 800 MHz Consensus Plan and recommends that the process for rule change move forward quickly.

Respectfully submitted
 Douglas Differt, Deputy Commissioner
 Minnesota Department of Transportation
 395 John Ireland Boulevard, MS 110
 Saint Paul, Minnesota 55155
 651-296-8532


 Douglas Differt, Deputy Commissioner

March 15, 2004

cc: John Muleta, Chief
 Wireless Telecommunications Bureau
 Federal Communications Commission
 445 12th Street, SW
 Washington, DC 20554

Larry Miller
 American Association of State Highway Transportation Officials
 Frequency Coordination Manager
 444 N. Capitol Street NW, Suite 249
 Washington, D.C. 20001

From: "Asleson, Mike" <Mike.Asleson@state.mn.us>
To: <CINCURT@aol.com>, <Michelle.Tuchner@state.mn.us>, <tjensen@mspta.com>, "Andrew Terry (E-mail)" <Andy.Terry@dot.state.mn.us>, "Tim Lee (E-mail)" <Tim.Lee@dot.state.mn.us>, "Beers, Anne" <Anne.Beers@state.mn.us>, "Swanson, Jay" <Jay.Swanson@state.mn.us>, "Raymond Dave-CSUS04" <D.Raymond@motorola.com>
Date: Wed, Jul 23, 2003 7:04 PM
Subject: RE FW 800 MHz Interference

Cpl Thurmes, thanks for your e-mail. I was out of the office yesterday.

My thanks is sincere, as I told you at last week's meeting in Clearwater -- you have represented your troopers properly by keeping the focus on the performance of the 800 MHz system. Problems that aren't reported can't be fixed. In spite of not getting a formal report of the incident until your e-mail, Captain Tuchner had already Trooper Elliot obtaining information on the problem, she'd heard about it through rumors.

* Mr. Raymond, MnDOT OEC Director Andy Terry and Assistant Director Tim Lee. The message and incident below illustrates (again) the level of frustration that continues with the system, especially in the east metro. I'm forwarding Cpl Thurmes's e-mail unedited, I believe it to be heartfelt and written out of sincere frustration. Also please see the commentary (admittedly hearsay according to Cpl Thurmes) regarding the portable radios being off frequency.

• Captain Swanson. I defer the reporting piece (discussed below) for your oversight and action.

Assistant Commissioner Leslie advised at a previous 800 MHz meeting that we are not going backwards, that we will be demanding that the system performed as it is expected to perform. I therefore don't see the return to our conventional VHF radios as a current option.

The radios have been checked to verify that they haven't moved off frequency. Improvements have been made (or are being made?) to existing antennas (omni-directional). Interference (last update I saw) to the system seems to have its source at Nextel and/or 3M. We recognize that a new transmitter needs to be placed at Oakdale - the purchase of the equipment is in progress, and approvals have been given to start the work. I don't know what else can be done -- except that the solutions to the problems identified to date need to be resolved and put into place as soon as humanly possible. These issues should take priority over anything else.

We know that having other agencies onto the system in east metro will improve coverage for our users (i.e., in building coverage). I recently read that Ramsey County SO and St. Paul PD are among those agencies that will join the system. Yet the unacceptable performance that has been experienced in the East Metro Patrol District may be causing other agencies to reconsider, and delay joining the system. This of course becomes a catch-22.

The system is certainly more robust and less problematic in west metro, although not all is perfect. I talked with a Chief of Police last weekend from a large northwestern suburb that is on the 800 MHz system. I asked how they liked it, he said they liked the system but were experiencing a high number of "bonks".

It used to be that we would at least hear [monitor] radio traffic on the frequency when it was busy. We couldn't transmit because someone else was talking and using the frequency, and we knew that from listening to our radio. Now however, we merely get a "bonk" when the available shared frequencies are busy, without the benefit of actually hearing that it is busy. I'm not suggesting this is acceptable and can't be improved. I'm just recognizing that this system operates very differently, and is understandably frustrating to the user.

My preference is not to do this via e-mail, but after today I'm off for a two plus week vacation.

Suggestions on the problem described below from anyone???

Motorola and MnDOT OEC Is everything to resolve the interference problem, and get the Oakdale site on the fastest track as possible? I suspect it is but want to make sure that we're moving as quickly as we can on solutions

Thanks to all

Major Mike Asleson, MSP

-----Original Message-----

From CINCURT@aol.com [mailto:CINCURT@aol.com]

Sent Monday, July 21, 2003 10:55 PM

To Mike Asleson@state.mn.us, Michelle Tuchner@state.mn.us, tjensen@mspta.com

Subject Re FW 800 Mhz Interference

FYI we had an incident the other day with WSP PD with the naked man who fought two officers, ran through a day care, and destroyed a law office. I communicated with radio inside the building and later tried to communicate with radio approx 5 min later from the exact same spot and was bonked 8 times with 5 troops in the building along with WSP Mendota Hgts and SSP PD's. I had to walk out of the building at a critical time to try to communicate with radio and was bonked 4 more times in the parking lot. All this time we were on 10-33 traffic.

The other troopers along with the locals laughed at the radio system we have purchased and the locals (one being a deputy chief) stated "that is exactly why we are not even looking at that technology". The locals laughed at the troops and said nice BLANKING radio.

It was critical for us to communicate with the officers outside the building as they could see into the room where the subject was and once again the 800 radio failed miserably. We had to rely on the radios from other departments again!

I waited for a few days to see if anyone would send in a complaint to 800 radio. Lt Anderson was advised that I blew up like Glen did a couple of weeks ago out of frustration after being Bonked 12 times on 10-33. You can pull the tape and listen if you would like. You would not want to hear the words I was saying during the bonks. I know he heard it and I told him the radio was bonked 12 times when he arrived on scene. There were 9 troopers on the scene and none of them reported it either and dispatch did not report anything.

My test of waiting for someone else to report these issues proved that everyone has become fed up with the lack of anything being done. The Troops and everyone else including management (LT.) are not following your orders to report problems and we continue to dodge close calls. I feel like these complaints are going on deaf ears and nothing is being done for the safety of the troops out in the field today while we wait like Ginny pigs for Motorola and DOT to come up with a solution some time (if ever) in the future.

A side note: two troops told me that radio said their portables were out of tuning (I know that is not the correct term) but were told to keep the radio they had because we do not have any spares. One of the Troops was Glen Knippenberg and the other was Kelly Collins. Now DOT and Motorola are sending troops out with known bad radios. I hope this is not true but I am taking the words of the Troops on this one. You can only imagine what kind of lawsuit this could generate. It would be like Freng saying yea I know your gun jams every second shot so don't shoot a lot, OK here is your gun.

Major and Captain this is getting real old. I'm tired of communicating these concerns when all we get are promises the radio system will be better sometime in the future. I wouldn't want to be the one to answer to a spouse or a child of an injured or dead trooper who was provided faulty equipment. What will it take to

get our old radios back immediately and restore communication and the safety of the trooper while we wait for the bugs to be figured out on the unreliable 800 radio?

Respectfully Curt Thurmes Dist 2400 Rep

CC: "Steffen, Richard" <Richard.Steffen@state.mn.us>

From: "Asleson, Mike" <Mike.Asleson@state.mn.us>
To: "Andrew Terry (E-mail)" <Andy.Terry@dot.state.mn.us>, "Lee, Tom" <Tom.Lee@state.mn.us>
Date: Mon, Jul 21, 2003 7:04 AM
Subject: FW: 800 MHz mtg notes

An unedited piece from the field, to illustrate that tensions and user receptivity is still a huge problem. I am choosing not to forward to Motorola. Mike

> -----Original Message-----

> From: Swanson, Jay
> Sent: Tuesday, July 08, 2003 5:56 AM
> To: Tuchner, Michele
> Cc: Asleson, Mike, swanson (E-mail)
> Subject: RE: 800 MHz mtg notes

>
> Michele, I greatly appreciate your hard work on this. I have two comments and please understand they are made out of frustration. They are intended as information only.

>
> 1. With regard to the code plugs for the 2430 troopers radios. This is very frustrating. I have lost track of how many times we have had to bring our troopers radios in to be checked, only to have them come back time after time. This is a huge drain on our resources. We've spent (or wasted depending on how you look at it) hundreds if not thousands of man hours having these radios checked, and we yet we still have problems like this. The troopers are getting very cynical about the capability of those who should be making sure these radios are programmed the way they are supposed to be.

>
> 2. With regard to the work at the King stack, I'm glad we're getting that work done, however SP184 was working yesterday afternoon and was having a great deal of difficulty communicating. When he inquired if the King stack tower was down, the RCO said they'd check. The answer he got back was that they did take it down, but it had now been back up for 5 minutes. I'm not sure if MNDOT notified anyone, but if they did the RCO and trooper were clueless. If they had been made aware, I suspect the trooper could've found a different part of the station to patrol. aaaaaaaaagggggggggggg. That's all, just me blowing off steam.

>
> -----Original Message-----

> From: Tuchner, Michele
> Sent: Monday, July 07, 2003 5:52 PM
> To: Anderson, John (E-mail), Elliott, John, Hamm, Mike (E-mail); Hunt, John (E-mail), Lee, Tim (E-mail), Ness, Lynn, Richard, Theis (E-mail), Schwartz, Henry (E-mail), Skip Chambers (E-mail), Smith, Al, Steve Johnson (E-mail); Swanson, Jay, Thurmes, Curt
> Cc: Asleson, Mike, Beers, Anne, Mengelkoch, Steve, Steffen, Richard, Kittridge, Kevin, Leslie, Tim
> Subject: 800 MHz mtg notes

>
> 800 Mhz committee members, there are some action items in red. These are the meeting details as I recall them. If you have anything to add please do so. Thanks!

>
> << File: 800 MHz Monthly Meeting 7-7-03.doc >>

CC: "Beers, Anne" <Anne.Beers@state.mn.us>, "Tuchner, Michele" <Michele.Tuchner@state.mn.us>, "Smith, Al" <Al.Smith@state.mn.us>

From: Henry Schwartz
To: Bob Stancer
Date: Mon, Sep 22, 2003 12:01 PM
Subject: Nextel Site MN0024

Bob,

In our testing of the site from the K-mart parking lot we did see 20 to 25 db of signal degradation and digitized audio on sector 3

After the realignment of freqs and replacing the combiner with a autotune combiner on 8-20-2003

Testing on 8-21 and 8-28 show a site signal degradation of only 3 5 db.

On 9-19-2003 the Oakdale tower site was brought on line and has increased the signal level in the area

This all combined has mitigated the interference from the MN0024 site

Thank you for you help in solving this problem

Henry Schwartz
System Tech 800 Mhz System
Mn/DOT Office of Electronic Communications
1500 W County Road B2
Roseville, MN 55113
651-582-1644 Fax 651-582-1669

email Henry Schwartz@dot.state.mn us

CC: Tim Lee